

**IN THE CLAIMS**

Kindly replace the claims by the following set of claims:

- 1.-6. (Cancelled)
7. (Previously Presented) A method according to claim 31, wherein the scheduling comprises scheduling the processor to handle the accumulated data from a first one of the connections at least twice before scheduling the processor to handle data from a second one of the connections.
8. (Previously Presented) A method according to claim 31, wherein scheduling the processor to handle the accumulated data comprises allowing the processor to utilize up to a predetermined amount of processing time for each connection.
9. (Previously Presented) A method according to claim 31, wherein the processor does not run an operating system which performs preemption.
10. (Previously Presented) A method according to claim 31, wherein scheduling the processor comprises having the processor wait without handling data from any of the connections if all the connections were scheduled for handling during their respective current cycles, although one or more of the connections has data requiring handling.
11. (Previously Presented) A method according to claim 10, comprising measuring the waiting time of the processor in a first cycle and using the measured waiting time in determining whether to accept handling data from an additional connection.
12. (Cancelled)
13. (Previously Presented) A method according to claim 31, comprising processing an entire block of accumulated data of the scheduled connection responsive to the scheduling.
- 14.-30. (Cancelled)

31. (Currently Amended) A method of scheduling the handling of a plurality of connections, comprising:

accumulating data from a plurality of connections, requiring handling in each cycle of a respective cycle scheme of the connection, by a remote access server;

determining quality of service levels of a plurality of the connections; and

scheduling the processor to process data from the plurality of connections in an order determined responsive to relative values of the determined quality of service levels.

wherein scheduling the processor to process data comprises scheduling in two stages comprising:

a first stage including determining possible scheduling options at least partially responsive to the respective cycle schemes of the connections, but without relation to the determined quality of service levels; and

a second stage, following the first stage, including determining a scheduling order responsive to the determined possible scheduling options at least partially responsive to relative values of the determined quality of service levels.

32. (Original) A method according to claim 31, wherein the scheduling comprises scheduling the processor to handle data from at least one first connection before handling data from at least one second connection having a lower quality of service level than the at least one first connection.

33. (Original) A method according to claim 31, comprising changing the quality of service level of at least one of the connections while accumulating the data and changing the order of scheduling responsive to the change in the quality of service level.

34. (Cancelled)

35. (Previously Presented) A method according to claim 31, wherein the plurality of connections connect to the remote access server through separate physical links.

36. (Previously Presented) A method according to claim 31, wherein the processing time of a connection does not affect the connection operation, provided the connection is processed within its respective cycle.
37. (Previously Presented) A method according to claim 31, wherein at least two of the plurality of connections have same cycle times beginning concurrently.
38. (Previously Presented) A method according to claim 31, wherein at least two of the plurality of connections have different cycle times.
39. (Previously Presented) A method according to claim 31, wherein the processor handles the data of each connection it is assigned, without interruption for handling data of a different connection.
40. (Previously Presented) A method according to claim 31, wherein scheduling the processor comprises scheduling each connection once during each of its respective cycles.
41. (Previously Presented) A method according to claim 31, comprising changing the cycle time of at least one of the connections, during its operation.
42. (Previously Presented) A method according to claim 31, wherein scheduling the processor comprises scheduling in an order determined responsive to the time remaining until the end of the respective cycle of each of the connections.
43. (Previously Presented) A method according to claim 42, wherein scheduling the processor comprises scheduling in an order determined responsive to the relative values of the quality of service levels when the time remaining until the end of the respective cycle is substantially the same for a plurality of connections.
44. (Previously Presented) A method according to claim 31, wherein scheduling the processor comprises scheduling the processor to process a connection waiting a longest time for processing, when a plurality of connections are otherwise with equal right for processing.

45. (Previously Presented) A method according to claim 31, wherein scheduling the processor comprises giving precedence to connections having a high quality of service level.

46. (Previously Presented) A method according to claim 31, wherein determining the quality of service levels comprises accessing a table listing the quality of service level for each connection.

47. (Currently amended) A remote access server, comprising:  
a plurality of channel drivers which accumulate data from respective channels;  
a processor which handles the accumulated data; and  
a scheduler which determines for at least one of the channels a quality of service level and schedules the processor to handle data of the channels in an order determined according to the determined quality of service level,

wherein the scheduler

determines for a plurality of the channels a quality of service level,

determines one or more possible scheduling options of the plurality of connections responsive to the respective cycle schemes of the connections and

schedules the processor to handle data of the channels in accordance with one of the determined possible scheduling options, selected according to the determined quality of service levels.

48. (Previously Presented) A server according to claim 47, wherein the plurality of channel drivers accumulate data from respective separate physical links.

49. (Previously Presented) A server according to claim 47, wherein the scheduler is adapted to change the handling order responsive to a change in quality of service.

50. (Previously Presented) A server according to claim 47, comprising a table which lists a quality of service level for each connection.

51. (Previously Presented) A server according to claim 47, wherein the scheduler schedules the processor to handle data of the channels in an order determined according to the relative quality of service levels of the channels.

52. (Currently amended) A method of scheduling the handling of a plurality of connections, comprising:

accumulating data from a plurality of connections having constant data rates, requiring handling in each cycle of a respective cycle scheme of the connection, by a remote access server;

determining for at least one of the connections a quality of service level; and

scheduling the processor to process data from the plurality of connections in an order adjusted responsive to changes in the determined quality of service level, such that the data rate of the connections do not change, and the chance of data loss of at least one of the connections does change.

53. (Previously Presented) A method according to claim 52, wherein scheduling the processor comprises giving precedence to connections having a high quality of service level.

54. (Previously Presented) A method according to claim 52, wherein determining a quality of service level comprises determining for each of the connections.

55-56. (Cancelled)

57. (Currently amended) A method of scheduling the handling of a plurality of connections, comprising:

accumulating data from a plurality of connections having constant data rates, requiring handling in each cycle of a respective cycle scheme of the connection, by a remote access server;

determining for at least one of the connections a quality of service level;

scheduling the processor to process data from the plurality of connections in a first order determined responsive to the determined quality of service level;

changing the quality of service level of at least one of the connections; and

scheduling the processor to process data from the plurality of connections in a second order adjusted responsive to the change in the quality of service level, such that the data rate of the connections do not change, and the chance of data loss of at least one of the connections changes.

58. (New) A method according to claim 31, comprising changing the desired quality of service level of at least one of the connections, and scheduling the processor to process data from the plurality of connections in a second order adjusted responsive to the change in the desired quality of service level.

59. (New) A method according to claim 31, wherein the scheduling order does not affect the data rates of the connections.